

What is claimed is:

1. A film forming apparatus, comprising:

a drying chamber for drying a cleaned substrate under a reduced pressure;

5 a film forming chamber for forming a film on the substrate by a CVD method under a reduced pressure; and
a transfer path for transferring the substrate under a reduced pressure from the drying chamber to the film forming chamber.

10 2. The apparatus as set forth in claim 1, further comprising:

a cleaning chamber for cleaning the substrate, wherein the substrate cleaned in the cleaning chamber is dried under the reduced pressure in the
15 drying chamber.

3. The apparatus as set forth in claim 2, further comprising:

a polishing chamber for polishing the substrate, wherein the substrate processed in the polishing
20 chamber is cleaned in the cleaning chamber.

4. The apparatus as set forth in claim 3,

wherein an oxidization-prone film is formed on the substrate.

25 5. The apparatus as set forth in claim 3, further comprising;

a conductive film forming chamber for forming a conductive film on the substrate formed with an

insulating film having a recessed portion in a front face thereof to embed it in the recessed portion,

wherein the substrate formed with the conductive film in the conductive film forming chamber is polished in the polishing chamber so that the conductive film formed on the front face of the insulating film except for the recessed portion is polished away.

6. The apparatus as set forth in claim 5, wherein the conductive film is made of copper.

7. The apparatus as set forth in claim 6, wherein an inside of the drying chamber is in an inert gas atmosphere.

8. The apparatus as set forth in claim 7, wherein a plurality of the drying chambers are provided.

9. A film forming method, comprising the steps of: drying a cleaned substrate under a reduced pressure;

transferring the substrate with the reduced-pressure state kept after the reduced-pressure drying; and

forming a film on the substrate by a CVD method under a reduced pressure after the transfer.

10. The method as set forth in claim 9, wherein an oxidization-prone film is formed on the substrate.

11. The method as set forth in claim 10,

wherein the oxidation-prone film is copper.

12. An apparatus, comprising:

a first substrate carrier for transferring a substrate in an atmospheric air;

5 a second substrate carrier provided almost perpendicular to the first substrate carrier for transferring the substrate in the atmospheric air; and

a processing chamber capable of delivering and receiving the substrate to/from at least one of the first substrate carrier and the second substrate carrier, for processing the substrate under a reduced pressure.

13. The apparatus as set forth in claim 12,

15 wherein the processing chamber is a CVD film forming chamber.

14. The apparatus as set forth in claim 12,

wherein the processing chamber is an etching processing chamber.

15. The apparatus as set forth in claim 12,

20 wherein the processing chamber is a resist removing chamber.

16. The apparatus as set forth in claim 12, further comprising:

a cleaning chamber for cleaning the substrate,

25 wherein the substrate cleaned in the cleaning chamber is dried under a reduced pressure in the processing chamber.

17. The apparatus as set forth in claim 12,
wherein the processing chamber is capable of
delivering and receiving the substrate to/from the
first substrate carrier, and

5 wherein the apparatus further comprises:

a polishing chamber, capable of delivering and
receiving the substrate to/from the first substrate
carrier, for polishing the substrate;

10 a cleaning chamber, capable of delivering and
receiving the substrate to/from the first substrate
carrier, for cleaning the substrate processed in the
polishing chamber; and

15 a drying chamber, capable of delivering and
receiving the substrate to/from the first substrate
carrier, for drying under a reduced pressure the
substrate cleaned in the cleaning chamber.

18. The apparatus as set forth in claim 17, further
comprising:

20 a conductive film forming chamber, capable of
delivering and receiving the substrate to/from the
first substrate carrier, for forming a conductive film
on the substrate formed with an insulating film having
a recessed portion in a front face thereof to embed it
in the recessed portion,

25 wherein the substrate formed with the conductive
film in the conductive film forming chamber is polished
in the polishing chamber so that the conductive film

formed on the front face of the insulating film except for the recessed portion is polished away.

19. An apparatus, comprising:

5 a first substrate carrier for transferring a substrate in an atmospheric air;

a second substrate carrier for transferring the substrate under a reduced pressure; and

10 a third substrate carrier for transferring the substrate between the first substrate carrier and the second substrate carrier.

20. The apparatus as set forth in claim 19, further comprising:

15 a processing chamber, capable of delivering and receiving the substrate to/from the second substrate carrier, for processing the substrate under a reduced pressure.

21. The apparatus as set forth in claim 19, further comprising:

20 a polishing chamber, capable of delivering and receiving the substrate to/from the first substrate carrier, for polishing the substrate;

25 a cleaning chamber, capable of delivering and receiving the substrate to/from the first substrate carrier, for cleaning the substrate processed in the polishing chamber; and

a drying chamber, capable of delivering and receiving the substrate to/from the first substrate

carrier, for drying under a reduced pressure the substrate cleaned in the cleaning chamber.

22. The apparatus as set forth in claim 19, further comprising:

5 a conductive film forming chamber, capable of delivering and receiving the substrate to/from the first substrate carrier, for forming a conductive film on the substrate formed with an insulating film having a recessed portion in a front face thereof to embed it
10 in the recessed portion,

 wherein the substrate formed with the conductive film in the conductive film forming chamber is polished in the polishing chamber so that the conductive film formed on the front face of the insulating film except
15 for the recessed portion is polished away.